

Claims

1. A DNA-launching platform comprising:
  - a) a polynucleotide molecule encoding a modified viral RNA molecule; and
  - b) a DNA dependent RNA polymerase promoter.
2. The DNA-launching platform of claim 1 further comprising a sequence encoding at least one cis-acting element.
3. The DNA-launching platform of claim 1 further comprising a ribozyme sequence.
4. The DNA-launching platform of claim 1 further comprising a termination sequence.
5. The DNA-launching platform of claim 1 further comprising a restriction site.
6. The DNA-launching platform of claim 1 wherein said modified RNA molecule comprises an exogenous RNA segment.
7. The DNA-launching platform of claim 1 wherein said DNA dependent RNA polymerase promoter is capable of functioning in a plant cell.
8. A method of genotypically or phenotypically modifying one or more cells comprising the following steps:
  - a) obtaining a DNA-launching platform comprising a polynucleotide molecule encoding a modified viral RNA; and
  - b) transfecting said one or more cells with said DNA-launching platform, wherein said polynucleotide molecule is transcribed thereby forming a replicatable RNA transcript.

9. The method of claim 8 further comprising pre-transforming said cell with at least one polynucleotide molecule encoding at least one trans-acting factor.

10. The method of claim 8 further comprising introducing a trans-acting factor.

11. The method of claim 10 wherein said introducing a trans-acting factor comprises co-transfection of an expression plasmid comprising a nucleotide sequence encoding said trans-acting factor.

12. The method of claim 10 wherein said introducing a trans-acting factor comprises co-transfection of an RNA transcript encoding said trans-acting factor.

13. The method of claim 10 wherein said trans-acting factor is stably expressed.

14. The method of claim 8 wherein said modified viral RNA comprises an exogenous RNA segment.

15. The method of claim 8 wherein said DNA-launching platform comprises a ribozyme sequence.

16. The method of claim 8 wherein said DNA-launching platform comprises a promoter.

17. The method of claim 8 wherein said DNA-launching platform comprises a termination sequence.

18. The method of claim 8 wherein said DNA-launching platform comprises a restriction site.

19. The modified cell produced by the method of claim 8.

20. A method of producing a plant or plant tissue comprising at least one genotypically or phenotypically modified cell, said method comprising transfecting cells of said plant or plant tissue with a DNA-launching platform, wherein said DNA-launching platform comprises a polynucleotide encoding a modified RNA molecule, such that said polynucleotide molecule is transcribed to form a replicatable RNA transcript.

21. The method of claim 20 wherein said modified RNA molecule comprises an exogenous RNA segment.

22. The method of claim 20 wherein said DNA-launching platform comprises a ribozyme sequence.

23. The method of claim 20 wherein said DNA-launching platform comprises a promoter.

24. The method of claim 20 wherein said DNA-launching platform comprises a termination sequence.

25. The method of claim 20 wherein said DNA-launching platform comprises a restriction site.

26. A method of producing a genotypically or phenotypically modified plant comprising obtaining at least one modified cell produced by the method of claim 8; and subjecting said modified cell to conditions whereby a plant is regenerated therefrom.

27. A plant produced by the method of claim 26.

28. A plant descended from the plant of claim 27.

29. The method of claim 20, wherein said plant or plant tissue comprises one or more cells transformed with a polynucleotide molecule encoding at least one trans-acting factor, wherein said polynucleotide molecule is expressed.

30. The method of claim 29, wherein said modified viral RNA molecule is capable of replication only in said one or more cells transformed with a polynucleotide molecule encoding at least one trans-acting factor.